

**NMG010023, River Valley Dairy
Nutrient Management Plan
Appendix D**

EnviroCompliance Services, Inc.
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Certified Mail 7008 1830 0001 0006 5382

June 3, 2010

6WQ-PP

JUN 9 - 2010

RECEIVED

Att: Scott W. Stine, Ph.D.
Permits and Technical Section
US EPA Region 6
1445 Ross Ave.(6WQ-PP)
Dallas, TX 75202-2733

Re: CAFO NPDES Permit NOI Submittal; River Valley Dairy, LLC.

Dear Dr. Stine

I have enclosed with this letter the items requested in your April 9, 2010 E-mail. I believe this information will satisfy your request. We have worked out some details with NMSU on the Annual Nutrient Manager and I believe the following information will address your questions and comments. Regarding the Mesquite Drain and land application set back, I am intending to collect actual site measurements to confirm the total set back distance and drain berm elevation. This information will be available in mid June. Please refer to the discussion at item 3 below.

Our response includes:

- 1) A revised site plan showing, a) flow direction; b) outline of runoff control drainage areas; and c) structural controls is enclosed.
- 2) The 2009 retention structure certifying report is attached; For the retention structure certifications I have attached the certifying statement page. I did not send the entire documentation package. Please let me know if you need more information on this item.
- 3) At this location the Mesquite Drain has excavation spoil berms on both sides of the drain channel, the top of which are significantly elevated above the surrounding crop land. This berm provides a physical barrier down-gradient of the crop land that prevents agricultural runoff from entering the drain. The Mesquite Drain channel and it's berms are maintained by the Elephant Butte Irrigation District (EBID).
- 4) The NMSU Annual Nutrient Manager was developed with NMSU to address NPDES Permit compliance matters. This was done in 2008 and to the best of my knowledge it has satisfied EPA concerns regarding the documentation of proposed and actual land application practices. We have been using this tool for compliance maintenance since that time. I believe that in combination with the appropriate Practice 590 job sheets, this simplified summary tool can also satisfy the need to document annual practices for the NMP.

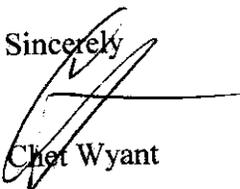
- 4a) We have modified the Annual Nutrient Manager to address the irrigation water nitrate issue. An example of how this modification works and the effect it will have on the calculation results is attached. We do not have actual analysis results for the EBID water, however, the calculation will work in the same way. The Annual Nutrient Manager will now account for either or both well and ditch district irrigation water nitrogen.
- 4b) We normally convert the soil nitrate-nitrogen analysis, expressed in ppm, to lbs/ac by multiplying the ppm value by 2, or we use the total lbs/ac value provided by the soil laboratory. For consistency in this NOI, we have taken the soil nitrogen reserve value in total lbs/ac from the Practice 590 Nutrient Management Jobsheet results.
- 4c) Based on effluent analysis a value in ppm or mg/l is entered into the 590 Nutrient Mgt. Jobsheet for Organic and Manure Land Application. The jobsheet provides a Summary of Nutrients in Net by Form as applied (lbs/ac-in), for the LAA-A example this is 26.0 lbs/ac-in. We move this value (26.0 lbs/ac-in) to the Annual Nutrient Manager which then simply calculates the total applied ($26.0 \text{ lbs/ac-in} \times 3.65 \text{ ac-in} \times 15 \text{ acres} = 1424 \text{ lbs N on 15 ac}$).

Within the 590 Nutrient Mgt. Jobsheet Summary there is also a calculation for Total Nutrients Applied-All Forms which derives a slightly larger number in pounds per acre. We cannot access the formula for this value and therefore are not able to comment on the basis of the difference in these totals (1424 lbs total vs. 1450.5 lbs total). However, we are confident that by using the 590 Nutrient Mgt. Jobsheet to establish the nutrient value in lbs/ac-in and then moving this value to the Annual Nutrient Manager for a simple calculation of the application rate, we are able to compile the Practice 590 computations into an accurate and review friendly, management and documentation format. This will aid both the producer and the inspector in their respective compliance responsibilities.

- 4d) The NRCS AG57 Phosphorus Index work sheet for New Mexico is our primary tool for determining Nitrogen or Phosphorus based land application rates. The P Index number is then entered into 590 Nutrient Management Jobsheet for Phosphorus Removed by Crop Harvest, which further evaluates the basis for land application. If these jobsheets indicate a phosphorus based application rate, then using the Annual Nutrient Manager we calculate the appropriate application rate based on the expected crop removal or 1.5 times crop removal. The P value (in lbs/ac-in) used in the Annual Nutrient Manager is taken from the 590 Nutrient Mgt. Jobsheet for Organic and Manure Land Application.

If you need any additional information please contact me or contact EnviroCompliance Services, Inc. at (575) 762-9674.

Sincerely,



Chet Wyant

Enclosure: Revised Site Plan
Certifications

EXAMPLE

Dairy Annual Nutrient Manager

Date	6/7/2010		Dairy Extension Program	Victor E. Cabrera Dairy Specialist dairy.nmsu.edu: Tools vcabrera@nmsu.edu	PLANNED	
Dairy	River Valley Dairy					
Crop_Year	2009-2010					
Field_ID	Example					
Area (ac)	15				N Loss	0%
					Goal/Real	Nutrient Needed
	Month - Month	Crop	Unit	Yield		N P
1 st Crop	Nov'09-May'10	Triticale (Wheat for green chop 70%)	t/ac	10		2102 279
2 nd Crop	Jun'10-Oct'10	Sorghum/Sudangrass, for silage (70%)	t/ac	16		2359 302
						0 0
Total		Nutrient Needed				4,461 581
						Soil Analyses
Texture by Feel	Loam					N P
Nutrient Available in Soil			lb/ac			73 288.64
		Nutrient Still Needed				3,366 -3,748
						Effluent Analyses
						N P
Effluent Manure Application	NM Dairy Ponds Net from J.S. 590 L&MLA		ac-in	3.65		1424 312
Irrigation	Irrigation		ac-in	24		326 0
	Irrigation ditch		ac-in	12		163 0
	Nutrient Still Needed					1,453 -4,060
						Manure Analyses
						N P
Dry Manure Application			t/ac			0 0
			t/ac			0 0
			t/ac			0 0
		Nutrient Still Needed				1,453 -4,060
						Fertilizer Content
						N P
Chemical Fertilizers Applied			lb/ac			0 0
			lb/ac			0 0
			lb/ac			0 0
Annual Nutrient Balance						1,453 -4,060